FORMING A RETROGRADE WELL IN A TRANSISTOR TO ENHANCE PERFORMANCE OF THE TRANSISTOR

ABSTRACT OF THE DISCLOSURE

A method of forming a retrograde well in a transistor is provided. A transistor structure having a substrate, a gate, and a gate oxide layer between the substrate and the gate is formed. The substrate includes a channel region located generally below the gate. A first dopant is implanted into the channel region. A second dopant is implanted into the substrate to form a doped source region and a doped drain region. A third dopant is implanted into the gate oxide layer. A source/drain anneal is performed to form a source and a drain in the doped source region and the doped drain region, respectively. The source/drain anneal causes a portion of the first dopant in the channel region to be attracted by the third dopant into the gate oxide layer.